

**New Mexico Science Content Standards, Benchmarks,  
and Performance Standards**

**Strands and Benchmarks**

**Kindergarten – 4th Grade**

**Strand II: Content of Science**

**Standard II (Life Science):** Understand the properties, structures, and processes of living things and the interdependence of living things and their environments.

**K-4 Benchmark I:** Know that living things have diverse forms, structures, functions, and habitats.

**Grade                      Performance Standards**

**K**        Identify major structures of common living organisms (e.g., stems, leaves, and roots of plants; arms, wings, and legs of animals).  
Observe that differences exist among individual living organisms (e.g., plants, animals) of the same kind.

**1**        Know that living organisms (e.g., plants, animals) have needs (e.g., water, air, food, sunlight).

**2**        Observe that diversity exists among individuals within a population.

**4**        Explain that different living organisms have distinctive structures and body systems that serve specific functions (e.g., walking, flying, swimming).

Know that humans and other living things have senses to help them detect stimuli, and that sensations (e.g., hunger) and stimuli (e.g., changes in the environment) influence the behavior of organisms.

Describe how all living things are made up of smaller units that are called cells.

**Strand II: Content of Science**

**Standard II (Life Science):** Understand the properties, structures, and processes of living things and the interdependence of living things and their environments.

**K-4 Benchmark III:** Know the parts of the human body and their functions.

**Grade                      Performance Standards**

**K.**        Use the senses (e.g., sight, hearing, smell, taste, touch) to observe surroundings, and describe the observations.

Identify the parts of the human body (e.g., legs, arms, head, hands) and the functions of these parts.

**1**        Describe simple body functions (e.g., breathing, eating).

Describe the basic food requirements for humans.

Describe how some parts of human bodies differ from similar parts of other animals (e.g., hands and feet/paws; ears).

**2**        Identify a variety of human organs (e.g., lungs, heart, stomach, brain).

The Human Brain ~ Museum Explorations 2006-2007  
Bradbury Science Museum ~ Los Alamos National Laboratory  
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Identify the functions of human systems (e.g., respiratory, circulatory, digestive).

**4** Know that the human body has many parts that interact to function as systems (e.g., skeletal, muscular) and describe the parts and their specific functions in selected systems (e.g., the nose, lungs, and diaphragm in the respiratory system).

Recognize that the human body is organized from cells, to tissues, to organs, to systems, to the organism.

## **5th – 8th Grade**

### **Strand II: Content of Science**

**Standard II (Life Science):** Understand the properties, structures, and processes of living things and the interdependence of living things and their environments.

**5-8 Benchmark III:** Understand the structure of organisms and the function of cells in living systems.

### **GradePerformance Standards**

**5** Understand that all living organisms are composed of cells from one to many trillions, and that cells are usually only visible through a microscope.

Describe the relationships among cells, tissues, organs, organ systems, whole organisms, and ecosystems.

#### **7 Structure of Organisms**

Explain how organs are composed of tissues of different types of cells (e.g., skin, bone, muscle, heart, intestines).

#### **Function of Cells**

Understand that many basic functions of organisms are carried out in cells, including:

- specialized functions of cells (e.g., reproduction, nerve-signal transmission, digestion, excretion, movement, transport of oxygen).

Describe how factors (radiation, UV light, drugs) can damage cellular structure or function.

**8** Describe how chemical substances can influence cellular activity (e.g., pH).

## 9th – 12th Grade

### **Strand II: The Content of Science**

**Standard II (Life Science):** Understand the properties, structures, and processes of living things and the interdependence of living things and their environments.

**9-12 Benchmark III:** Understand the characteristics, structures, and functions of cells.

### **Grade                  Performance Standards**

#### **9-12    Structure and Function**

Know that specialized structures inside cells in most organisms carry out different functions, including:

- parts of a cell and their functions (e.g., nucleus, chromosomes, plasma, and mitochondria)

Describe the mechanisms for cellular processes (e.g., energy production and storage, transport of molecules, waste disposal, synthesis of new molecules).

Explain how cells differentiate and specialize during the growth of an organism, including:

- differentiation, regulated through the selected expression of different genes
- specialized cells, response to stimuli (e.g., nerve cells, sense organs).

#### **Biochemical Mechanisms**

6. Describe how most cell functions involve chemical reactions, including:

- communication from cell to cell by secretion of a variety of chemicals (e.g., hormones).